Opportunity Title: USDA-ARS Interdisciplinary Experience in Plant Pathology, Microbiology and Chemistry
Opportunity Reference Code: USDA-ARS-MWA-2024-0394

Organization U.S. Department of Agriculture (USDA)

Reference Code USDA-ARS-MWA-2024-0394

How to Apply ***To submit your application, scroll to the bottom of this opportunity and click APPLY.***

A complete application consists of:

- An application
- Transcript(s) – For this opportunity, an unofficial transcript or copy of the student academic records printed by the applicant or by academic advisors from internal institution systems may be submitted. Click here for detailed information about acceptable transcripts.
- A current resume/CV, including academic history, employment history, relevant experiences, and publication list
- Two educational or professional recommendations

All documents must be in English or include an official English translation.

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Application Deadline 8/22/2025 3:00:00 PM Eastern Time Zone

Description ***Applications are reviewed on a rolling-basis.**

ARS Office/Lab and Location: A research training opportunity is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), Mycotoxin Prevention and Applied Microbiology (MPM) Research Unit, National Center for Agricultural Utilization Research (NCAUR), Peoria, Illinois

The Agricultural Research Service (ARS) is the U.S. Department of Agriculture's chief scientific in-house research agency with a mission to find solutions to agricultural problems that affect Americans every day from field to table. ARS will deliver cutting-edge, scientific tools and innovative solutions for American farmers, producers, industry, and communities to support the nourishment and well-being of all people; sustain our nation's agroecosystems and natural resources; and ensure the economic competitiveness and excellence of our agriculture. The vision of the agency is to provide global leadership in agricultural discoveries through scientific excellence.

The goal of the Mycotoxin Prevention and Applied Microbiology (MPM) Research Unit is to enhance food safety by conducting research to develop strategies to control fungal disease in cereal crops and eliminate the risk of harmful fungal contaminants in food and feed.

Research Project: MPM scientists conduct research in genetics, microbiology, chemistry and plant pathology to produce information and

technologies to enhance food safety and crop production in the U.S. and around the world. The participant will have the opportunity to collaborate with this team of scientists specifically on research aimed at characterizing the diversity of fungi and mycotoxins in wheat and corn. This project will include field sampling, sample processing using molecular and analytical techniques and data analysis.

Learning Objectives: The participant will have the opportunity to:

1. Gain experience in large project design, field sampling, sample processing and organization
2. Advance skills with microbiology methods including microbial isolation and identification
3. Gain experience in molecular biology techniques including DNA extraction, PCR and fungal biomass quantification.
4. Learn standard analytical chemistry techniques for the detection and quantification of fungal metabolites
5. Increase confidence in project design and execution, enhance communication and teamwork skills, quantitative reasoning, critical thinking, and large data set analysis.

Mentor(s): The mentor for this opportunity is Martha Vaughan (martha.vaughan@usda.gov). If you have questions about the nature of the research, please contact the mentor(s).

Anticipated Appointment Start Date: February 2025. Start date is flexible and will depend on a variety of factors.

Appointment Length: The appointment will initially be for one year, but may be renewed upon recommendation of ARS and is contingent on the availability of funds.

Level of Participation: The appointment is full time.

Participant Stipend: The participant will receive a monthly stipend commensurate with educational level and experience.

Citizenship Requirements: This opportunity is available to U.S. citizens, Lawful Permanent Residents (LPR), and foreign nationals. Non-U.S. citizen applicants should refer to the Guidelines for Non-U.S. Citizens Details page of the program website for information about the valid immigration statuses that are acceptable for program participation. Foreign national candidates may have a mandatory in-person requirement depending on visa status.

ORISE Information: This program, administered by ORAU through its contract with the U.S. Department of Energy (DOE) to manage the Oak Ridge Institute for Science and Education (ORISE), was established through an interagency agreement between DOE and ARS. Participants do not become employees of USDA, ARS, DOE or the program administrator, and there are no employment-related benefits. Proof of health insurance is required for participation in this program. Health insurance can be obtained

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through ORISE.

Questions: Please visit our Program Website. After reading, if you have additional questions about the application process, please email ORISE.ARS.Midwest@orau.org and include the reference code for this opportunity.

Qualifications

The qualified candidate should have received a bachelor's, or master's degree in one of the relevant fields. Degree must have been received within the past five years.

Preferred skills:

- Willing to do field research with corn and wheat.
- Experience in a laboratory environment, molecular biology techniques (DNA extractions), general biology or chemistry techniques, educational background in science

Point of Contact

Shantra Joynes

Eligibility Requirements

- **Degree:** Bachelor's Degree or Master's Degree received within the last 60 month(s).
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12)
  - **Communications and Graphics Design** (2)
  - **Computer, Information, and Data Sciences** (17)
  - **Earth and Geosciences** (21)
  - **Engineering** (27)
  - **Environmental and Marine Sciences** (14)
  - **Life Health and Medical Sciences** (51)
  - **Mathematics and Statistics** (11)
  - **Physics** (16)
  - **Science & Engineering-related** (2)
  - **Social and Behavioral Sciences** (29)

Affirmation

I affirm that:

I am a US Citizen, OR;
I am a non-US citizen currently living in the United States